

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A manufacturing method of a structural body, characterized in that

manufacturing a first plate and a second plate for abutting and welding said first plate;

said first plate comprising a first flange provided by bending a first side of said first plate, a second flange being orthogonal substantially to said first flange and provided by bending a second side of said first plate, and a recessed portion between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprising a third flange provided by bending a first side of said second plate and for connecting to said end portion in the longitudinal direction of said first flange, and an extended portion protruded from a third side of said second plate, said third side being orthogonal substantially to said first side of said second plate and to a second side which is parallel substantially to said first side, said extended portion extending to a vicinity of an end portion in a longitudinal direction of said third flange;

abutting said end portion in the longitudinal direction of said first flange and said end portion of the longitudinal direction of said third flange;

abutting said third side to an outer side of a circular arc of said second flange from said first plate;

inserting and abutting said extended portion to said recessed portion; and  
welding the respective abutted portions.

2. (previously presented) A manufacturing method of a structural body according to claim 1, characterized in that

said recessed portion includes a portion of a bottom plate of said first plate;  
and

said extended portion includes a portion of a bottom plate of said second plate.

3. (original) A manufacturing method of a structural body according to claim 1, characterized in that

said second plate has a fourth flange in which a second side being parallel substantially to said first side of said second plate is bent, an end portion in a longitudinal direction of said fourth flange is positioned in a retreat position from said third side;

an end portion in the longitudinal direction of said fourth flange is abutted to said second flange; and

said abutted portion is welded.

4. (original) A manufacturing method of a structural body according to claim 1, characterized in that

to said second plate a thick portion is provided along to said second side;

an end portion in a longitudinal direction of said second side is positioned in a retreat position from said third side;

an end portion in the longitudinal direction of said thick portion is abutted to said second flange; and  
said abutted portion is welded.

5. (previously presented) A manufacturing method of a structural body, characterized in that

manufacturing a first plate and a second plate for abutting and welding said first plate;

said first plate being an extruded frame member and comprising plural ribs along to an extrusion direction, a thick portion provided along to a side which is an end portion in an orthogonal direction against said extrusion direction, a plate portion except for said rib of an end portion of said extrusion direction and said thick portion, and a first flange provided by bending said end portion of said plate portion to a side of said rib;

said second plate comprising a third flange provided by bending a first side;  
abutting an end portion in the longitudinal direction of said first flange and an end portion in the longitudinal direction of said third flange;

abutting a third side of said second plate which is orthogonal substantially to said third flange to an end portion of said thick portion of said first plate; and  
welding the respective abutted portions.

6. (previously presented) A manufacturing method of a structural body according to claim 5, characterized in that

between said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said thick portion, manufacturing said

first plate to which a recessed portion except for said first flange and said plate portion of a side of said thick portion is provided;

manufacturing said second plate having an extended portion in which an end portion in the longitudinal direction of said third flange and a vicinity of said end portion is protruded from said third side;

inserting and abutting said extended portion to said recessed portion; and  
welding said abutted portion.

7. (previously presented) A manufacturing method of a structural body according to claim 6, characterized in that

said recessed portion includes a bottom plate of said plate portion of said first plate; and

said extended portion includes a portion of a bottom plate of said second plate.

8. (original) A manufacturing method of a structural body according to claim 5, characterized in that

said second plate has a fourth flange in which a second side being parallel substantially to said first side of said second plate is bent;

an end portion in the longitudinal direction of said fourth flange is abutted to said thick portion of said first plate; and

said abutted portion is welded.

9. (original) A manufacturing method of a structural body according to claim 5, characterized in that

said second plate is an extruded frame member and an extrusion direction of said extruded frame member is a longitudinal direction of said third flange;

a second side being parallel substantially to said first side of said second plate forms a thick portion;

an end portion in the longitudinal direction of a thick portion of said second plate is abutted to said thick portion of said first plate; and

said abutted portion is welded.

10. (currently amended) A structural body, characterized in that

a first plate and a second plate are welded;

said first plate comprises a first flange provided by bending a first side of said first plate, a second flange being orthogonal substantially to said first flange and provided by bending a second side of said first plate, and a recessed portion between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprises a third flange provided by bending a first side of said second plate and for connecting to said end portion in the longitudinal direction of said first flange, and an extended portion protruded from a third side of said second plate, said third side being orthogonal substantially to said first side of said second plate and to a second side which is parallel substantially to said first side, said extended portion extending to a vicinity of an end portion in a longitudinal direction of said third flange;

said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said third flange are abutted;

said third side to an outer side of a circular arc of said second flange from said first plate are abutted;

said extended portion is inserted and abutted to said recessed portion; and the respective abutted portions are welded.

11. (previously presented) A structural body according to claim 10, characterized in that

said recessed portion includes a portion of a bottom plate of said first plate; and

said extended portion includes a portion of a bottom plate of said second plate.

12. (original) A structural body according to claim 10, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side of said first plate is provided; and

an end portion in a longitudinal direction of said fourth flange is welded to said second flange of said first plate.

13. (original) A structural body according to claim 10, characterized in that

to said second plate a thick portion is provided along to said second side; and

an end portion in the longitudinal direction of said thick portion is welded to said second flange.

14. (previously presented) A structural body, characterized in that an extruded frame member and a second plate are welded;

said extruded frame member comprises plural ribs along to an extrusion direction, a thick portion provided along to a side which is an end portion in an orthogonal direction against said extrusion direction, a plate portion except for said rib of an end portion in said extrusion direction and said thick portion, and a first flange provided by bending said end portion of said plate portion to a side of said rib;

said second plate comprises a third flange provided by bending a first side;

an abutted portion of an end portion in the longitudinal direction of said first flange and an end portion of the longitudinal direction of said third flange is welded;  
and

an abutted portion of a third side of said second plate which is orthogonal substantially to said third flange to an end portion of said thick portion of said first plate is welded.

15. (previously presented) A structural body according to claim 14, characterized in that

between said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said thick portion, said extruded frame member has a recessed portion except for said first flange and a side of said plate portion of said thick portion;

said second plate has an extended portion in which an end portion in the longitudinal direction of said third flange and a vicinity of said end portion is protruded from a third side;

said extended portion is inserted to said recessed portion; and

said abutted portion is welded.

16. (previously presented) A structural body according to claim 15, characterized in that

said recessed portion includes a bottom plate of said plate portion of said extruded frame member; and

said extended portion includes a portion corresponding to a portion of said bottom plate.

17. (original) A structural body according to claim 14, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side of said first plate is provided; and

an end portion in a longitudinal direction of said fourth flange is welded to said thick portion of said first plate.

18. (original) A structural body according to claim 14, characterized in that

said second plate is an extruded frame member and an extrusion direction of said extruded frame member is a longitudinal direction of said third flange;

a second side being parallel substantially to said first side of said second plate forms a thick portion; and

an end portion in the longitudinal direction of a thick portion of said second plate is welded to said thick portion of said extruded frame member.

19. (previously presented) A car body of a railway vehicle, characterized in that

an end structure of said car body of the railway vehicle comprises a first plate, a second plate, and a third plate;



said second plate constitutes a member between an upper portion of a passenger passage and a roof of said car body, and said second plate is welded to said roof;

said first plate and said third plate are provided in a right side and a left side, and said first plate and said third plate are welded to said second plate, respectively;

said first plate and said third plate constitute a member between said passenger passage and a side face of said car body;

said first plate and said third plate are overlapped and welded on said side face of said car body and said roof;

said first plate and said third plate comprise a first flange provided by bending said plates along to said roof and said side face of said car body, a second flange provided by bending said plates along to said passenger passage, and a recessed portion except for a flange between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprises a third flange provided along to said roof and for connecting to an end portion in a longitudinal direction of said first flange, an extended portion protruded from a third side which is orthogonal substantially to a first side of said second plate and extends to a vicinity of an end portion in a longitudinal direction of said third flange ;

an abutted portion of said end portion in the longitudinal direction of said first flange and said end portion of the longitudinal direction of said third flange is abutted; and

an abutted portion of said third side to an outer side of a circular arc of said second flange from said first plate and an abutted portion of said extended portion to said recessed portion by inserting said extended portion is welded.

20. (previously presented) A car body of a railway vehicle according to claim 19, characterized in that

said recessed portion includes a portion of a bottom plate of said first plate and a portion of a bottom plate of said third plate; and

said extended portion includes a portion of a bottom plate of said second plate.

21. (original) A car body of a railway vehicle according to claim 19, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side of said first plate is provided; and

an end portion in a longitudinal direction of said fourth flange is welded to said second flange.

22. (original) A car body of a railway vehicle according to claim 19, characterized in that

to said second plate a thick portion is provided to said flange along to parallel substantially to a second side; and

an end portion in the longitudinal direction of said thick portion is welded to said flange.

23. (previously presented) A car body of a railway vehicle, characterized in that

an end structure of said car body of the railway vehicle comprises a first plate, a second plate, and a third plate;

said second plate constitutes a member between an upper portion of a passenger passage and a roof of said car body, and said second plate is welded to said roof;

said first plate and said third plate are provided in a right side and a left side, and said first plate and said third plate are welded to said second plate, respectively;

said first plate and said third plate constitute a member between said passenger passage and a side face of said car body;

said first plate and said third plate are overlapped and welded on said side face of said car body and said roof;

said first plate and said third plate are extruded frame members and an extrusion direction of said plates is a vertical direction of said car body;

said first plate and said third plate being said extruded frame members comprise plural ribs along to an extrusion direction, a thick portion provided along to a side which is an end portion in an orthogonal direction against said extrusion direction, a plate portion except for said rib in said end portion in said extrusion direction and said thick portion, and a first flange in which said end portion of said plate portion along to said roof and a side face of said car body;

said second plate comprises a third flange provided by bending a first side;

an abutted portion of said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said third flange is welded; and

an abutted portion of said third side being orthogonal substantially to said third flange and said end portion of said thick portion of said first plate is welded.

24. (previously presented) A car body of a railway vehicle according to claim 23, characterized in that

between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said thick portion, said frame member has a recessed portion except for said first flange and said plate portion of a side of said thick portion;

said second plate has an extended portion which protrudes an end portion in a longitudinal direction of said third flange and a vicinity of said end portion from a third side;

said extended portion is inserted to said recessed portion; and  
an abutted portion is welded.

25. (previously presented) A car body of a railway vehicle according to claim 24, characterized in that

said recessed portion includes a portion of a bottom plate of said plate portion of said extruded frame member; and

said extended portion includes a portion corresponding to a portion of a bottom plate.

26. (original) A car body of a railway vehicle according to claim 23, characterized in that

to said second plate a fourth flange in which a second side being parallel substantially to said first side of said first plate is provided; and

an end portion in a longitudinal direction of said fourth flange is welded to said thick portion of said extruded frame member.

27. (original) A car body of a railway vehicle according to claim 23, characterized in that

said second plate is an extruded frame member and an extrusion direction of said extruded frame member is a longitudinal direction of said third flange;

a second side being parallel substantially to said first side of said second plate forms a thick portion; and

an end portion in the longitudinal direction of a thick portion of said second plate is welded to said thick portion of said extruded frame member.

28. (previously presented) A manufacturing method of a structural body

characterized in that manufacturing a first plate and a second plate for abutting and welding said first plate;

said first plate comprising a first flange provided by bending a first side of said first plate, a second flange being orthogonal substantially to said first flange and provided by bending a second side of said first plate, and a recessed portion between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprising a third flange provided by bending a first side of said second plate and for connecting to said end portion in the longitudinal direction of said first flange, and an extended portion protruded from a third side of said second plate, said third side being orthogonal substantially to said first side of said second plate and to a second side which is parallel substantially to said first side, said extended portion extending to a vicinity of an end portion in a longitudinal direction of said third flange;

abutting said end portion in the longitudinal direction of said first flange and said end portion of the longitudinal direction of said third flange;

abutting said third side to an outer side of a circular arc of said second flange from said first plate;

inserting and abutting said extended portion to said recessed portion; and welding the respective abutted portions, and

characterized in that respective flanges are formed in respective plates using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

29. (previously presented) A manufacturing method of a structural body according to claim 28, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.

30. (previously presented) A manufacturing method of a structural body according to claim 5, characterized in that respective flanges are formed in respective plates

using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

31. (previously presented) A manufacturing method of a structural body according to claim 30, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.

32. (previously presented) A structural body characterized in that

a first plate and a second plate are welded;

said first plate comprises a first flange provided by bending a first side of said first plate, a second flange being orthogonal substantially to said first flange and provided by bending a second side of said first plate, and a recessed portion between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprises a third flange provided by bending a first side of said second plate and for connecting to said end portion in the longitudinal direction

of said first flange, and an extended portion protruded from a third side of said second plate, said third side being orthogonal substantially to said first side of said second plate and to a second side which is parallel substantially to said first side, said extended portion extending to a vicinity of an end portion in a longitudinal direction of said third flange;

said end portion in the longitudinal direction of said first flange and said end portion in the longitudinal direction of said third flange are abutted;

said third side to an outer side of a circular arc of said second flange from said first plate are abutted;

said extended portion is inserted and abutted to said recessed portion; and the respective abutted portions are welded,

characterized in that respective flanges are formed in respective plates using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

33. (previously presented) A structural body according to claim 32, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering



said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.

34. (previously presented) A structural body according to claim 14, characterized in that respective flanges are formed in respective plates using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

35. (previously presented) A structural body according to claim 34, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.

36. (previously presented) A car body of a railway vehicle characterized in that an end structure of said car body of the railway vehicle comprises a first plate, a second plate, and a third plate;

said second plate constitutes a member between an upper portion of a passenger passage and a roof of said car body, and said second plate is welded to said roof;

said first plate and said third plate are provided in a right side and a left side, and said first plate and said third plate are welded to said second plate, respectively;

said first plate and said third plate constitute a member between said passenger passage and a side face of said car body;

said first plate and said third plate are overlapped and welded on said side face of said car body and said roof;

said first plate and said third plate comprise a first flange provided by bending said plates along to said roof and said side face of said car body, a second flange provided by bending said plates along to said passenger passage, and a recessed portion except for a flange between an end portion in a longitudinal direction of said first flange and an end portion in a longitudinal direction of said second flange;

said second plate comprises a third flange provided along to said roof and for connecting to an end portion in a longitudinal direction of said first flange, an extended portion protruded from a third side which is orthogonal substantially to a first side of said second plate and extends to a vicinity of an end portion in a longitudinal direction of said third flange;

an abutted portion of said end portion in the longitudinal direction of said first flange and said end portion of the longitudinal direction of said third flange is abutted; and

an abutted portion of said third side to an outer side of a circular arc of said second flange from said first plate and an abutted portion of said extended portion to said recessed portion by inserting said extended portion is welded, and

characterized in that respective flanges are formed in respective plates using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

37. (previously presented) A car body of a railway vehicle according to claim 36, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.

38. (previously presented) A car body of a railway vehicle according to claim 23, respective flanges are formed in respective plates using a female die and a rod shaped tool, wherein a shape of an inner peripheral face of said female die corresponds to a desired outer shape of each of said respective plates, by a process comprising:

inserting said rod shaped tool into an interior portion of said female die;

lowering said rod shaped tool by an incremental amount along a vertical inner peripheral face of said female die; and

moving said rod shaped tool along the inner peripheral face of said female die to form respective flanges on respective plates.

39. (previously presented) A car body of a railway vehicle according to claim 38, further comprising, in forming respective flanges in respective plates, rotating said rod shaped tool on its axis while moving the tool, and, after said rod shaped tool is moved entirely around the inner peripheral face of said female die, again lowering said rod shaped tool by an incremental amount and moving said rod shaped tool along the inner peripheral face of said female die.